Trans-Lake Washington Project
Washington State Department of Transportation
Sound Transit

MEETING SUMMARY

TRANS-LAKE WASHINGTON PROJECT
ALL-COMMITTEE WORKSHOP
MUSEUM OF HISTORY AND INDUSTRY, SEATTLE, WA
MAY 23, 2001 — 9:00 A.M. TO 4:00 P.M.

INTRODUCTION, WELCOME, AND AGENDA REVIEW

Pat Serie, EnviroIssues, welcomed the committee members and reviewed the agenda. The morning session of the day's workshop was to be spent discussing community enhancements and lid options and opportunities. The discussion would then be broken down into the four geographic areas to discuss lidding possibilities and tradeoffs in detail. The afternoon session would be a modeling workshop to examine and discuss the modeling assumptions used in the comparative analysis of the multi-modal alternatives. There were no changes made to the agenda.

Pat Serie stated that the upcoming all-day workshops on June 6 would focus on transportation results and costs, and the June 13 workshop would focus on environmental impact information, freeway operations, and the team recommendations for the EIS alternatives.

Elizabeth Newstrum, Town of Yarrow Point, expressed concern that the desires of the committee members regarding information about the SR 520 right-of-way and overlays of the four-, six- and eight-lane options have been disregarded. She also expressed concern that information is being withheld in an attempt to lead the committees to a conclusion desired by WSDOT. Jeff Peacock stated that the team has been sharing information with the committee members as it is being developed, and therefore the information may seem at times to be incomplete. Pat Serie assured the committee that information they felt was necessary to help make decisions would be made available.

EVALUATION OF LIDDING OPTIONS AND OPPORTUNITIES

Jeff Peacock presented the lidding options considered in each of the four areas: Eastlake, Portage Bay, Roanoke and North Capitol Hill; Montlake; Lake Washington to I-405; and east of I-405. Three concepts were examined for each:

Concept 1 – Expanded bridges concept
Concept 2 – Lids in topographic areas that support lidding
Concept 3 – Community suggestions, including full lidding

Each of the concepts was developed in the four geographical areas with consideration of community values, reestablishing community connectivity, topography, ventilation needs, effects of portal structures, costs, and community suggestions. He then described the results for each of the geographic areas, pointing out differences in size, ventilation needs, and impacts that may be counterproductive to the purpose of a lid.

The objective of the lid presentation was to present a basic approach and rationale for lid sizing, outline the benefits and costs of each lid, and incorporate committee input into framing the recommendations for lids. A breakout session of the four geographical areas would allow more detailed discussion of lid application in each of those areas.

Jeff Peacock related that some of the community suggestions included long lids. He noted some of the implications of long lids, including:

- Significant depression of the roadway to keep the lid at ground level
- Protrusion of lids above ground level
- Need for fire suppression facilities for lids greater than 350 feet in length
- Need for ventilation and air quality control equipment.

Questions and points raised, followed by a summary of the discussion, are contained below.

- *How loud are the ventilation structures?*

  Dave Dye, WSDOT, indicated that the fans, operating in normal mode, cannot be heard when standing next to the ventilation stacks. The fans are contained in an enclosed building underneath the lid, and baffles are also placed on air intakes.

- *What are geographical and community characteristics that influence the applicability of a lid?*

  The adjacent community is also considered when looking at the lidding options, including whether that community is industrial or residential. The team will be looking at how a lid 'feels' in a given area.

- *How much area of roadway would need to be left open, in comparison to adjacent sections of lidded roadway to avoid the need for ventilation structures?*

  There should probably be comparable distances of open/lidded highway, and longer open areas might be needed where in areas bounded by sound walls to maintain adequate ventilation.

- A suggestion was made to have profiles of lids generated to show to the community members.

- The assumption has been made that HCT alignment is included within the confines of proposed lids, as a result of community suggestions.

- The Portage Bay Viaduct area has not been discussed within the current lidding report, because the concepts have not yet been developed. It may be more of a noise mitigation challenge than a lid/community enhancement opportunity.

- *How quickly will a northward shifted alignment arrive back in the ROW on the east side of Lake Washington?*

  The team is looking at maintaining design speeds through the corridor, and as a first projection would have the roadway within the existing alignment about 200-300 feet east of the footbridge across the freeway.

- The anticipated design speed through Montlake is 70 mph. Design speed is usually reduced by 10 mph to obtain the travel speed.

- Construction staging for a depressed roadway surface of 5-10 feet would include digging and moving the roadway as the excavation is completed on each side.

- Width assumptions for lids are 250 feet, and may be narrower based on the number of lanes.

- On the east side of Lake Washington, the depth of roadway depression to create a lid flush with surrounding topography would vary greatly. Depression of the roadway to accommodate lids at-grade could result in a series of hills. Interchange connections are complicated for depressed roadways. Significant ventilation structures would also be required.

- The potential advantages of lids for community connectivity is lost if the lid heights are significantly above ground level.

- Though lids may mitigate noise in some cases, noise mitigation is not the primary purpose. Portals at the lid ends may actually increase noise in those areas as sound reverberates out of the lid area.

- Though lids do dampen noise for some receptors, they can't be considered mitigation for noise because of the cost-impact criteria outlined in WSDOT's noise abatement policy procedure manual. The Federal Highway Administration (FHWA) gives guidelines for the amount of money that can be spent per impacted receiver, and it would be difficult to bring the cost of lids within the range of the allowed $20-30,000 per person except in extremely densely populated areas.

- Dan Becker, Mayor, City of Medina, stated that the discussion on lidding is premature without a fixed choice for the alignment. Jeff Peacock stated that the work is being done concurrently, rather than sequentially. There are issues to be determined with the alignment in the corridor, but the team feels it is far enough

along in the analysis to understand how the lids might work in the corridor. The costs of lids will be substantial, and part of the objective of the discussion is to gather an understanding of the realities of what lids can accomplish.

BREAKOUT DISCUSSION

The meeting participants broke out into smaller groups to discuss in more detail potential lidding and community enhancements in each of the four geographic regions along the corridor:

- Eastlake/Portage Bay/Roanoke/North Capitol Hill;
- Montlake;
- Lake Washington to I-405;
- East of I-405.

Each of the points of the discussion was summarized for the entire group. These summaries are below.

Eastlake/Portage Bay/Roanoke/North Capitol Hill

- Consider increased noise reduction opportunities instead of lids.
- Explore lid options that would allow for expanded noise mitigation opportunities.
- Further explore the closing of the Roanoke off-ramp to reduce neighborhood traffic and noise impacts.
- Consider social equity in placement of lids along the corridor.
- Concern expressed for historic homes on Harvard Ave.
- Consider cost as an information item, not a criterion.

Montlake

- Noise, visual aesthetics, community connectivity, and transit service are the biggest issues in Montlake.
- General support for transit stop improvements, landscaping.
- Concept 2 achieves no new community connectivity.
- The presence or absence of a tunnel at Lake Washington Boulevard under SR 520 makes a big difference in how the Montlake intersection ultimately works.
- A 70-foot high portal over Foster Island is not appealing (concept 3).
- None of the lid options by themselves address bike and pedestrian access across the highway.
- There are some opportunities for improving the transit flyer stop; it could become an underground facility. Protect transit station from noise/dust.

Lake Washington to west of I-405

- Options that the community raised were not examined in the lidding evaluation document.

    - What happens if the entire roadway grade is lowered, or full lidding is considered from Lake Washington to Bellevue Way? Does it work and is it feasible?
    - Half-lids, depressed roadways, and other options should be considered for addressing noise.
- How much value is in extended overpass bridges – is there enough value for them to be worthwhile?
- The impacts of Concept 3, full lidding from Lake Washington to Bellevue Way, seem significant enough to begin to question its feasibility.
- Open areas between lids will suffer from extra noise. How will that be addressed?
- What are other effects of having combinations of open area and lids?

East of I-405 to SR 202

- Noise and lid mitigation should be equal to the mitigation in the other geographic areas.
- Community enhancements should promote construction of HCT, and enhance access to transit services, Park and Rides, and bike and pedestrian connections in the corridor as well as in downtown Redmond and Marymoor Park.
- Commercial or civic development on lids should include:
    - Direct access into parking structure/Park and Rides.
    - North-south travel across 520.
- Address cut through traffic.
- There is a general interest in pursuing concept 3.

Pat Serie stated that the information gathered from the meeting today will be prepared graphically with the cost-benefit information about the lids, to culminate in the June 13, 2001, presentation of the team recommendations for alternatives to carry into the EIS. Comments from the committee members will continue to be gathered in the next week.

Four open houses are scheduled for June to present the multi-modal alternatives and the community enhancement options to the community.

Greg Hill, Streeter Architects, suggested that plan drawings be visualized three dimensionally for the public, since the public may not be able to understand the implications of the plans. Though it will not be possible to create perspective drawings for each major location, the team will address that concern.

MODELING WORKSHOP

Jeff Peacock introduced the modeling workshop, stating that the purpose would be to understand what the modeling is measuring and what it is telling us. The PSRC model being used in the Trans-Lake Project gives an understanding of the basic mode splits given the assumed connections in each of the alternatives. He emphasized that this model is one of the best available tools in the nation, and is used to compare the performance of the alternatives against each other.

Cathy Strombom, Parsons Brinckerhoff, led the modeling workshop. The objective of the workshop presentation was to review the modeling approach and the underlying assumptions, understand travel forecasting, and discuss how the transportation alternatives affect the travel demand and the modeling results.

Cathy noted that the land use and transportation models simulate behavior of people as they make transportation choices in their daily lives now and in the future. She also stated that people react to changes in the transportation system, to change their route, time of travel, or mode in the short term, and where they work, live, or own a business in the long term.

The forecasting process begins with land use forecasts, and is based on development, transit, and highway policies. The four steps after the development of the land use forecasts are:

- Trip generation
- Trip distribution
- Mode choice
- Mode assignment

The mode choice model results in an allocation of all person trips among the highway, HOV and transit modes of travel. How changes in the transportation system will feed back into the land use decisions is being examined in both the Trans-Lake and I-405 projects. Points noted in the discussion about each of these steps are summarized below.

Trip Generation

Trip generation is determined by household demographic data and business demographic data, and is estimated at the zonal level.

Trip Distribution

- Transit access is not currently an input into the trip distribution step; PSRC may incorporate it into the model later.
- People may figure high profile transportation systems that affect accessibility or travel times between different parts of the region into decisions about where to live and work.
- The base year for the model is currently 1995; however it will be updated to year 1999 or 2000 before the EIS, to reflect travel time, densities, and new transit and park and ride facilities for a more recent base year.
- PSRC uses Transportation Planning Package (TPP) data from the Census to help calibrate/validate their models for work trips.

- TPP data is also supplemented with a yearly 1500 person survey to gather longitudinal household travel data. PSRC models are upgraded with city/county road network changes, and travel decision changes.

Mode Choice

- The choice of mode is affected mostly by travel time and travel costs.

- The PSRC model is neutral to transit technologies; performance differences are based on travel time, need to transfer, and choice flexibility. Convenience, comfort, and reliability for transit are not completely captured because they are not a factor in the modeling.

- Characteristics for mode choices are based on stated preferences in travel surveys that demonstrate the tradeoffs. Detailed ridership data are available down to the route and stop level that can be used to substantiate survey results.

- The model assumes that a 3+ occupancy requirement will be needed to maintain service levels and travel time advantage on HOV facilities by 2020. This is consistent with the occupancy policy of the Washington Transportation Commission. Changes in occupancy requirements, however, would be phased in over time depending upon the service level of individual facilities.

Traffic Assignment

The model assigns vehicles to the highway network and transit riders to the transit network. The highway assignment process is an iterative one that takes into account congestion on individual routes; vehicles are reassigned until the system is in "equilibrium." **Other Discussion Points**

- Over the next one or two decades, the choices that are made now will affect land use and other patterns. Transportation alternatives will affect accessibility to many areas, and this will in turn affect land use patterns.

- The modeling does not assume that only when all forms of car use are exhausted, that mode shifts occur. The HOV 3+ option, for example, increases capacity and reduces travel time, and reduces the need for a different mode altogether. The interaction between the modes will be modeled for each of the multi-modal alternatives over the next few weeks.

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- Different service characteristics can be programmed into the model to show the differences between fixed guideway and bus rapid transit options, for example. There are inherently different attractiveness and performance between the two technologies. There is also the opportunity to model different route networks, to get a sense of the performance based on routes. The purpose of the modeling transit at this stage, however, is to help determine whether the Sound Transit long-range vision should be amended.

- Household characteristics such as income and age distribution, as well as other factors such as fares, parking charges, carpool parking costs, are included in the model by zones as part of the variables affecting trip generation and mode choice. .

- The most current land use data as well as the most current transportation network will be included in the EIS modeling analysis.

- Assumptions regarding transit changes because of the I-405 study are incorporated as follows:

    - The no action alternative assumes Sound Transit Phase 1 improvements

    - All other multi-modal alternatives currently do not include assumptions about I-405 since that study is still in progress.

    - The draft EIS will test assumptions and improvements related to I-405 as to their impacts on the SR 520 corridor.

- The EIS should include a discussion of the cumulative impacts of the interplay between the various facilities – I-5, I-405, and I-90. Discussion of updates of the Metropolitan Transportation Plan (MTP) will also need to be included.

- Impacts to I-5 and potential congestion there as a result of increased capacity coming into I-5 will be reflected in the regional and corridor modeling, as well as in a more detailed operational analysis. Operational information about travel speeds and number of person trips and vehicle trips will be available.

- A suggestion was made to make more operational information available about what happens at I-5 as a result of SR 520, or what happens on SR 520 as a result of the constraints of I-5. Jeff Peacock suggested that origin-destination travel time information could be generated for travel from Lynnwood to downtown Seattle, and cars on Fairview/Eastlake to downtown Seattle as a simple case-study.

- Interchange configurations, ramp metering, and HOV performance are not included in the regional modeling; they are included in the operation modeling that will be done.

- Accidents and breakdowns, and the benefit of adding shoulders and safety improvements, have been understood in a conceptual way, though the model does not demonstrate performance changes as a result of these additions. The calibration of the model tries to quantify the effect of the incidents based on the breakdown. Incidents on a daily basis are being noted by the model, though annualized incident levels during peak periods are very small. It was suggested that though this figure may be small, it would seem to have a huge effect on the reliability of the facility.

- A suggestion was made to have the transit input assumptions made available – headways, corridor widths, station lengths, assumed stations, frequency of service, acceleration/deceleration times - for all parts of the transit modeling.

- A suggestion was also made to have the differences in modeling assumptions for fixed guideway and bus rapid transit made clear.

- How well does the model work in accommodating systems that have no baseline in the Puget Sound region, such as fixed guideway transit service or tolls, since there are no data to calibrate with? The team feels that the modeling will still be applicable.

- Jeff Peacock stressed that the model is applied with the same assumptions across the range of alternatives, as a method of comparing those alternatives. It is not meant to determine system performance at specific locations.

- Studies on the value of time have shown that people would make diversions to avoid tolls of up to 1/3 of the wage rate, based on available literature and other studies.

- Options that are created out of the Trans-Lake Project are not only driven by population growth, but will pattern the population growth in the region.

- Skepticism about modeling results was expressed. Cathy Strombom emphasized again that the modeling is good for making tradeoff choices, but not for predicting the future actual use of a given facility. Modeling has shown to be accurate within 10-15% on major corridors and regionally. Individual street and transit route predictions are not as accurate.

- It was suggested that impacts and choices beyond the 2020 modeling date, as the system nears capacity, need to be examined. Jeff Peacock stated that though this is not part of the evaluation criteria, he encouraged the committee members to push the issue in front of the Executive Committee, as it may play a strong role in shaping the decision.

- A suggestion was made for incorporating pedestrian friendly aspects of the system, similar to a LUTRAC model used in Portland. Cathy Strombom noted that it would be possible to incorporate such variables, but that it would add complexity to the model and the forecasts, and introduces subjectivity and best professional judgment. It is an aspect that the regional models have not captured well.

MEETING HANDOUTS

- Agenda
- Evaluating the Benefits and Costs of Lidding, presentation
- Modeling Workshop, presentation
- Preliminary Draft Lidding Options and Opportunities Evaluation Report, report
- Neighborhoods Lid Evaluation Results:
  - Eastlake/Portage Bay/Roanoke/North Capitol Hill
  - Montlake
  - Lake Washington to West of I-405
  - East of I-405 to SR 202
- Improve Strategy for a Trans-Lake Corridor Partnership Agreement, Virginia Gunby, May 20, 2001

ACTION ITEMS

- Show right-of-way layout and overlays of potential alignments.
- Origin-destination travel time information could be generated for travel from Lynnwood to downtown Seattle, and cars on Fairview/Eastlake to downtown Seattle as a simple case-study by June 6.
- Send modeling assumptions information to Len Newstrum.
- Clarify differences in assumptions for fixed guideway and bus rapid transit modeling.
- Present perspective drawings of features such as lids to illustrate plan drawings at open houses.

MEETING ATTENDEES

Executive Committee Members

Present	Name		Organization
X	Becker	Daniel	City of Medina
X	Berry	Jeanne	Town of Yarrow Point
X	Cairns	Bryan	City of Mercer Island
	Conlin	Richard	City of Seattle
X	Crawford	Jack	Sound Transit Board
X	Davis	Aubrey	Washington Transportation Commission
X	Earling	Dave	Sound Transit Board
	Edwards	Bob	Puget Sound Regional Council
	Fong	Gene	Federal Highway Administration
X	Ganz	Nona	City of Kirkland
	Gehrke	Linda	Federal Transit Administration
X	Grigsby	Daryl	City of Seattle
	Horn	Jim	Washington State Senate
X	Ives	Rosemarie	City of Redmond
	Jacobsen	Ken	Washington State Senate
X	Marshall	Connie	City of Bellevue
X	Martin	George	City of Clyde Hill
	McConkey	Fred	Town of Hunts Point
	McIver	Richard	City of Seattle
X	McKenna	Rob	King County Council
	Murray	Ed	WA State House of Representatives
	Noble	Phil	City of Bellevue
	Okamoto	John	WSDOT - NW Region
	Pflug	Cheryl	WA State House of Representatives
	Sullivan	Cynthia	King County Council
	Taniguchi	Harold	King County Department of Transportation
	Wills	Heidi	City of Seattle

Executive Committee Alternates

Present	Name		Organization
X	Asher	David	City of Kirkland
X	Bowman	Jennifer	Federal Transit Administration
	Drais	Dan	FTA
X	Carpenter	Trish	Town of Hunts Point
	McKenzie	Jack	Town of Hunts Point
	Creighton	Mike	City of Bellevue
	Demitriades	Paul	City of Medina
X	Dye	Dave	WSDOT - NW Region
	Fimia	Maggi	Puget Sound Regional Council / King County Council
	Hague	Jane	King County Council

	Hughes	Gary	Federal Highway Administration
	Jahncke	El	City of Mercer Island
	Conrad	Richard	City of Mercer Island
	Kargianis	George	Washington Transportation Commission
X	Paine	Thomas	City of Redmond
	Rourke	Philip	City of Clyde Hill
	Rutledge	Steve	City of Yarrow Point
X	Switaj	Ed	City of Seattle

Technical Committee Members

Present	**Name**		**Organization**
X	Arndt	Jim	City of Kirkland
	Billen	Don	Sound Transit
X	Bowman	Jennifer	Federal Transit Administration
	Brooks	Allyson	Washington State Office of Archaeology and Historic Preservation
	Conrad	Richard	City of Mercer Island
X	Cushman	King	Puget Sound Regional Council
X	Dewey	Peter	University of Washington
	Fisher	Larry	Washington State Department of Fish and Wildlife
X	Martin	Ann	King County Department of Transportation
X	Hirsh	Dave	National Marine Fisheries Service
	Kennedy	Jack	U.S. Army Corps of Engineers
	Kenny	Ann	Washington Department of Ecology
	Kircher	Dave	Puget Sound Clean Air Agency
X	Leonard	Jim	Federal Highway Administration
X	Marpert	Terry	City of Redmond
X	Newstrum	Len	Town of Yarrow Point
	Rave	Krista	U.S. Environmental Protection Agency
	Pratt	Austin	U.S. Coast Guard, 13th District
	Sanchez	Susan	City of Seattle
X	Schulze	Doug	City of Medina
	Sparrman	Goran	City of Bellevue
X			(Bernard van de Kamp)
X	Sullivan	Maureen	WSDOT – NW Region
	Teachout	Emily	U.S. Fish and Wildlife Service
X	Wasserman	Mitch	City of Clyde Hill
X	Willis	Joe	Town of Hunts Point

Advisory Committee Members

Present		
X	Amick	Jean
	Andrews	Deborah
X	Aschenbach	Hans
	Beltz	Allison
X	Culp	Barbara
X	Dent	Bob

	Eades	Bertha
	Gatchet	Dan
	Gunby	Virginia
X	Hallenbeck	Mark
	Hart	Fred
	Hill	Jim
X	Hill	Gregory
	Holman	Linda
	Hurley	Peter
X	Joneson	Kingsley
X	Leed	Jean
X	MacIsaac	Jim
X	Newstrum	Elizabeth
	Odell	Nina
X	Ray	Janet
X	Reckers, Jr.	James
X	Resha	John
	Sheck	Ronald
	Stelle	Claudia
X	Tate	Bob
	Tochterman	Thomas B.
	Wasserman	Eugene
X	Weed	Mark
	White	Rich
X	White	Roland
	Wyble	John

Other attendees

Rich Thorsten, 1000 Friends of Washington
Kristine Forbes, Seattle
John Hanson, Canterbury Shores Condominium
Chris Johnson, King County Council Staff
Theodore Lane

Project Team

Les Rubstello, WSDOT
Rob Fellows, WSDOT
Barbara Gilliland, Sound Transit
Don Billen, Sound Transit
Jeff Peacock, Parametrix
Lorie Parker, CH2M Hill
Pat Serie, EnviroIssues
Amy Grotefendt, EnviroIssues
Paul Hezel, EnviroIssues
Cathy Strombom, Parsons Brinckerhoff
Kirk Wilcox
Mark Hafs
Brad Phillips
Heather Catron
Tom Hamstra

Curt Warber
Jeff Brauns, CH2M Hill
Glenn Davis, WSDOT
Michael Minor, Minor and Associates

PJH